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ELM CONSULTING, L.L.C.

18-2 E. Dundee Rd., Suite 100
Barrington, Illinois 60010
Telephone (847) 842-1882
Fax (847) 842-1883

November 25, 1998

Mr. Brad Bradley
United States Environmental Protection Agency (SR-6J)
77 West Jackson Blvd.
Chicago, Illinois 60604

RE: **Work Plan and Health and Safety Plan, Version 2**

Dear Mr. Bradley:

Please find enclosed is a copy of Version 2 of the Work Plan and Health and Safety Plan (HASP) for the Surface and Subsurface Characterization on Site 2 and Site 3 relating to the Johns Manville (JM) Manufacturing Plant in Waukegan, Illinois. The specific changes are described below:

Work Plan

- 2.2 Site 2 Description, Page 2-1: The sentence "The construction manager arranged to use asbestos containing waste and soil from the JM Manufacturing Facility as berm construction material" was removed.
- Page 3-1, 4-1, 7-1, 7-2, 8-1, and 8-2: Waste Management will no longer be contracted to remove Asbestos Containing Material (ACM) found during the Surface and Subsurface Characterization.

HASP

- Page 2, (7): The sentence "The construction manager arranged to use asbestos containing wastes and soil from the JM facility as berm construction material" was removed.
- Section 9: The addition of "ELM SUBCONTRACTOR" in the heading.
- Page III-1: Various site-specific details were added to Version 2 that were not included in Version 1 of the HASP.
- Page X-1, X-2: Waste Management will no longer be contracted to remove ACM found during the Surface and Subsurface Characterization.

Fieldwork is scheduled to begin December 1, 1998. If you have any questions or comments, please feel free to call me at (847) 842-1882 or on my cell phone at (847) 274-6506.

Sincerely,

Jeff Stringer
Project Manager

SURFACE AND SUBSURFACE CHARACTERIZATION FOR SITE 2 AND SITE 3 WORK PLAN

JOHNS MANVILLE MANUFACTURING FACILITY 1871 NORTH PERSHING ROAD WAUKEGAN, ILLINOIS 60087

Prepared for:

Johns Manville Corporation
Littleton, Colorado

Prepared by:

ELM Consulting, L.L.C.
Barrington, Illinois

Project No. 98000701

November 1998

V. 2

SURFACE AND SUBSURFACE CHARACTERIZATION FOR SITE 2 AND SITE 3 WORK PLAN

JOHNS MANVILLE MANUFACTURING FACILITY 1871 NORTH PERSHING ROAD WAUKEGAN, ILLINOIS 60087

Prepared for:

Johns Manville Corporation
10100 West Ute Avenue
Littleton, Colorado 80162-5005

Prepared by:

ELM Consulting, L.L.C.
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(847) 842-1882

Written by: Jeff Stringer
Project Manager

Reviewed by: Todd Williams, P.E, P.G.
Principal Consultant

ELM Consulting, L.L.C. Project No. 98000701

November 1998

V. 2

SURFACE AND SUBSURFACE CHARACTERIZATION FOR SITE 2 AND SITE 3 WORK PLAN

Johns Manville Manufacturing Facility
1871 North Pershing Road
Waukegan, Illinois 60087

TABLE OF CONTENTS

FIGURES:

APPENDICIES:

1.0 INTRODUCTION AND LIMITATIONS

1.1 Introduction

Recent findings indicate the presence of asbestos containing material (ACM) at two sites (Sites 2 and 3) located immediately adjacent to and south of the Johns Manville (JM) Manufacturing Facility in Waukegan, Illinois. In addition, municipal waste materials and expended and unexpended small arms ammunition may be present at Site 2, which was used as a firing range during and after the 1959 Pan Am Games hosted by the City of Chicago. Concerns associated with the historic and present land use at these Sites necessitate the collection and analysis of soil samples to determine the presence of ACM, lead and municipal waste.

Per the attached letter dated July 10, 1998, from Brad Bradley of the United States Environmental Protection Agency (USEPA), the USEPA and Illinois Environmental Protection Agency (IEPA) have requested that conditions at these two Sites be characterized so that remediation options can be evaluated (Appendix A). The primary objective of the surface and subsurface characterization is to define the horizontal and vertical extent of ACM, lead and municipal waste on the surface and in the top three feet of soil of Site 2. The primary objective is also to define the horizontal and vertical extent of ACM on the surface and in the top three feet of soil of Site 3. This will be accomplished through a site surface inspection and grid-defined subsurface sampling and analysis plan. The purpose of the lead sampling is to determine the extent of lead in soil due to the accumulation of spent, and, perhaps unexpended small arms ammunition used at the firing range. It is possible that some amount of municipal waste materials will be encountered during subsurface sampling activities.

This Work Plan has been written to detail all surface and subsurface characterization activities to be performed at Sites 2 and 3. The Work Plan specifies each Task to be completed and associated field testing procedures, sampling procedures and general health and safety precautions are included. Prior to the initiation of fieldwork, a detailed project Health and Safety Plan will be written, under a separate cover, detailing all personal protective equipment (PPE) to be utilized in the field. Additionally, the Health and Safety Plan will outline all safety procedures required during the field effort to assure a safe and hazard-free working environment. The scope-of-work for the surface and subsurface characterization has been divided into seven separate Tasks and are described as follows:

Task 1 - Defoliation of Site 2 and Site 3;

Task 2 - Inspection of Site 2 and Site 3 for Surface ACM;

Task 3 - Establish Grids for Sites 2 and 3 to Determine Subsurface Soil Sampling Points;

Task 4 – Subsurface Soil Sampling;

Task 5 – Soil Core Inspection of Site 2;

Task 6 – Soil Core Inspection of Site 3; and

Task 7 – The Completion of the Draft and Final Surface and Subsurface Characterization Reports.

1.2 Limitations

In preparing this report, ELM Consulting, L.L.C. (ELM) has reviewed historical records, conducted interviews with certain private and public officials, and performed a limited on-site visual inspection of Sites 2 and 3. ELM has examined and relied upon documents referenced in the Work Plan and has relied on oral statements made by certain individuals. ELM has not conducted an independent examination of the facts contained in referenced materials and statements. ELM has assumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. ELM has prepared this Work Plan in a professional manner, using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. ELM shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. ELM also notes that the facts and conditions referenced in this Work Plan may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this Work Plan and the site inspection. ELM believes the conclusions stated herein to be factual, but no guarantee is made or implied.

This Work Plan has been prepared for the benefit of JM, USEPA, IEPA, Illinois Department of Natural Resources (IDNR), the City of Waukegan and Commonwealth Edison. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express written consent of ELM.

2.0 SITE DESCRIPTIONS AND ACCESS AGREEMENTS

2.1 JM Manufacturing Facility Description

The JM Manufacturing Facility is located in Waukegan, Illinois (Waukegan Township; Section 10, Township 45N, Range 12E) along Lake Michigan in East-Central Lake County (Figure 1). According to Denny Clinton of JM, the facility operated as a manufacturing plant that produced shingles and roofing materials, piping insulation, gaskets and similar materials containing asbestos. The facility started manufacturing operations in the 1920's and ceased production in July of 1998. Currently, there are no operations being performed on the property with the exception of a warehouse which houses pipe insulating materials. The facility covers approximately 300 acres of land owned by JM.

2.2 Site 2 Description

The area designated by the USEPA as Site 2 is an area located south of the southeast corner of the JM property (Waukegan Township; Section 15, Township 45N, Range 12E) (Figure 1). The Site is situated primarily on City of Waukegan property (easterly extension of Greenwood Avenue right-of-way), and is currently managed by the IDNR as an access to the Commonwealth Edison fishing pier. A shooting range was constructed on Site 2 in 1959, in conjunction with the Pan Am Games that were hosted by the City of Chicago in that year. A series of berms were constructed on the Site to prevent bullets from leaving the range and traveling onto adjacent properties. Site 2 is oriented east to west, extends from the southern boundary of the JM property line in a southerly direction for a distance of approximately 250 to 400 feet, and from the Lake Michigan shoreline approximately 1,500 feet in a westerly direction.

2.3 Site 3 Description

The area designated by the USEPA as Site 3 is located south of Greenwood Avenue and aligned with the west end of the former JM Administration building at the southern end of the JM property (Waukegan Township; Section 15, Township 45N, Range 12E) (Figure 1). This area is approximately 200 feet in the north-south dimension and 350 feet in the east-west dimension, with the northern boundary of Site 3 beginning at the south edge of the pavement of Greenwood Avenue. This property is currently owned by Commonwealth Edison and was formerly utilized as a parking area for the former JM Administration building. Historical aerial photographs indicate that pipes were used in the parking area to aid in determining parking spaces. Additionally, various other potential ACM was identified on the Site according to the photographs.

2.4 Access Agreements

JM has obtained property access agreements from the City of Waukegan for Site 2 and from Commonwealth Edison for Sites 2 and 3. These agreements allow JM, ELM and its subcontractors access to Sites 2 and 3 for the purpose of site characterization. ELM and its subcontractors will comply with and abide by all provisions set forth in the access agreements while completing this scope-of-work. The access agreements for both the City of Waukegan and Commonwealth Edison are included with this Work Plan as Appendix B.

3.0 TASK 1 – DEFOLIATION OF SITE 2 AND SITE 3

To allow for the greatest accessibility to surface and subsurface areas, Site 2 and Site 3 will be defoliated. Current site conditions indicate that the grass/weed line is approximately two to three feet high. A diesel-powered tractor with a pull-behind mower will cut all grasses/weeds to a length of four to six inches above grade. A single-blade mower will be utilized so that the vegetation will not be finely cut. The grasses/weeds will be cut in a manner that will allow for the clippings to be easily raked, and that the clippings will not extensively cover the ground surface. Once the Sites have been mowed to a proper height, all clippings will be gathered into piles. All piles of clippings will then be removed from the property and hauled off-site for landfill disposal at LDK Recycling in Lake Bluff, Illinois. Signature Landscaping of Lake Bluff, Illinois will be the defoliating contractor and will conduct all mowing, raking, removal and disposal activities. A two-man crew will be utilized and defoliating activities will be conducted and finished in approximately four days. ELM anticipates that the clippings from defoliating activities will not be mixed with any potential ACM that may be on-site. If it is confirmed that the clippings are mixed with ACM that is on-site, then the clippings will be properly handled, removed and disposed of using all applicable laws and regulations. A USEPA accredited/Illinois Department of Public Health (IDPH) Licensed Asbestos Worker will properly handle and remove all asbestos-impacted clippings from the Sites.

According to Signature Landscaping, the two-man crew performing defoliating activities will be wearing heavy leather boots, safety goggles, ear protection and dust masks while performing all defoliating activities. To avoid contact with flying debris, the tractor operator will be enclosed in the driver compartment surrounded by plastic while operating the machine. To verify that the there is no friable asbestos in the breathing zone, an USEPA accredited/IDPH Licensed Air Sampling Professional will be on-site for the first day of defoliating activities to evaluate the potential friability of asbestos. The Air Sampling Professional will analyze several environmental samples to determine the source of the asbestos (piping insulation, roofing materials, grass clippings, etc.). Additionally, the Air Sampling Professional will analyze worker-monitoring devices to confirm or deny the presence of friable asbestos in the breathing zone. Samples shall be analyzed on-site by Phase Contrast Microscopy, National Institute of Occupational Safety and Health (NIOSH) Method 7400. As a result of this type of monitoring, we will know if a respirator fitted with High Efficiency Particulate Air (HEPA) filters will be necessary for future field operations. If friable asbestos is detected in the breathing zone, half-mask respirators with HEPA filters will be utilized by the defoliating crew for the remainder of all defoliating activities. RCM Laboratories, of Countryside, Illinois, will provide the Air Sampling Professional.

4.0 TASK 2 – INSPECTION OF SITE 2 AND SITE 3 FOR SURFACE ACM

Near the completion of the defoliating process for Sites 2 and 3, ELM will begin the inspection for surface ACM at both Sites. ACM fragments and fragment clusters found on the surface will be flagged, marked, located by survey with respect to North-South and East-West section lines, and identified and recorded as to size and type of fragment by ELM professionals. All ACM fragments and fragment clusters will be located by survey by Daniel Creaney Company of Northbrook, Illinois (field crew of 3). After all inspection and documentation activities are complete, ELM will remove, and deposit into polyurethane bags, all surface ACM. All surface ACM will be properly handled, removed and disposed of using all applicable laws and regulations. ELM anticipates 30 random points will be surveyed within Site 2 and Site 3 (total of 60 points) documenting the exact location in which fragment and fragment clusters identified. Each written report will include an AUTOCAD-based topographic drawing detailing the location (North-South and East-West section lines) of each ACM fragment and fragment cluster that was identified.

Because of the specific and unique scope-of-work for this project, professionals from RCM Laboratories are uncertain whether the inspection of Site 2 and Site 3 for surface ACM would require a USEPA accredited/IDPH Licensed Asbestos Worker. Because of this uncertainty, a Licensed Asbestos Worker be on-site during the two days of the surface inspection process to aid in the inspection and to properly handle, remove and dispose of ACM under USEPA and Occupational Health and Safety Administration (OSHA) guidelines. ELM, therefore anticipates thorough and extensive coverage during the inspection for surface ACM on both Sites with a field crew of three (two ELM professionals, one Licensed Asbestos Worker).

5.0 TASK 3 – ESTABLISH GRIDS FOR SITE 2 AND SITE 3 TO DETERMINE SAMPLING POINTS

For the purposes of determining sampling points, Daniel Creaney Company, as determined by JM will place a 100' x 100' grid within Site 2. Exact dimensions of the grid will be adjusted to reflect major site features and suspected concentrations of ACM. Based on JM's preliminary assessment of the USEPA specification and the dimensions of Site 2, it is anticipated that a total of 80 sampling locations will need to be surveyed.

Daniel Creaney Company, as determined by JM will place a 50' x 50' grid within Site 3. Exact dimensions of the grid will be adjusted to reflect major site features and suspected concentrations of ACM. Based on JM's preliminary assessment of the USEPA specification and the dimensions of Site 3, it is anticipated that a total of 50 sampling locations will need to be surveyed. To expedite project activities, establishing grids for sampling purposes for Site 2 and 3 will occur concurrently with the inspection of surface ACM at both Sites as described in Task 2.

6.0 TASK 4 – SUBSURFACE SOIL SAMPLING

To determine the potential presence of ACM, lead and/or municipal waste at the zero to three-foot interval of the subsurface, soil sampling will be conducted on Sites 2. To determine the potential presence of ACM at the zero to three-foot interval of the subsurface, soil sampling will be conducted on Sites 3. Based on JM's preliminary assessment of the USEPA specification and the dimensions of Site 2, it is anticipated that approximately 80 soil borings, to three feet bgs, will be drilled within the established grid at Site 2. Based on JM's preliminary assessment of the USEPA specification and the dimensions of Site 3, it is assumed that approximately 50 soil borings, to three feet bgs, will be drilled within the established grid at Site 3. Each written report will include an AUTOCAD-based topographic drawing detailing the positions and elevations of each sampling location at Sites 2 and 3. General observations will be made while conducting the subsurface investigation including soil types and presence and depth of groundwater (if encountered). All drilling activities will be preformed by Terra-Trace Environmental Services of Lincolnshire, Illinois using either an ATV or truck-mounted hydraulic soil probe. Assuming a field effort of 130 borings, Terra-Trace assumes a two-man crew and completion of drilling in three days.

Before the initiation of subsurface sampling at Sites 2 and 3, ELM will notify all required underground utility clearance services. Additionally, all precautions will be taken to ensure that the subsurface sampling activities will not damage underground utilities located under Sites 2 and 3 when underground utilities are present. ELM will obtain written certification that the location of all underground utilities has been determined prior to initiating intrusive field activities.

For health and safety reasons, a Licensed Asbestos Inspector from RCM Laboratories will be on-site during drilling activities to monitor the breathing zone for friable asbestos. The drilling crew will wear personal monitoring devices which will confirm or deny the presence of friable asbestos in the breathing zone. If friable asbestos is detected in the breathing zone, then the drilling crew for all subsequent drilling activities will utilize half-mask respirators fitted with HEPA filters. Monitoring devices shall be analyzed on-site by Phase Contrast Microscopy, NIOSH Method 7400. Additionally, there is no record of a subsurface investigation in the areas of Sites 2 and 3 detailing potential impacts to the subsurface by volatile organic compounds (VOCs). Therefore, an organic vapor monitor (OVM) will be utilized in the field during all subsurface drilling activities to monitor the sample cores and breathing zone. If the OVM detects VOCs in the breathing zone or in the area of the sample cores at any concentration, field operations will be stopped, and greater safety precautions will be implemented. If the soil is the source of VOCs, a soil sample will be collected and analyzed for VOCs (per USEPA Method 8260) to provide information for future health and safety precautions that may need to be implemented depending on the nature and concentration of the VOCs present (if any).

7.0 TASK 5 – SOIL CORE INSPECTION OF SITE 2

Concurrent with drilling activities, soil cores from Site 2 will be inspected, at one-foot intervals, for the presence of ACM, expended and unexpended ammunition and municipal waste. The drilling crew will retrieve each soil core in a three-foot polybutyrate sample liner. To inspect the core, a portion of the liner will be removed to expose the soil sample. The sample will then be divided into 1-foot intervals and visually inspected. To avoid creating dust particles while inspecting the cores, each sample interval will be inspected by hand. If this procedure is not feasible, then each interval will be sieved for inspection purposes. The following information details how ACM, lead and municipal waste will be sampled and analyzed.

7.1 Inspection of Soil Cores for Asbestos Containing Material

If any boring interval contains visible ACM, no analysis for asbestos will be conducted for that boring location. If no boring interval contains visible ACM, then all three boring intervals at that grid location will be analyzed for bulk asbestos. RCM Laboratories will provide a USEPA accredited/IDPH Licensed Asbestos Inspector to perform a visual inspection and material sampling of suspect ACM. Samples will be placed in 50 gram, plastic blood vials for transport to the laboratory. Larger sample containers will be provided if needed. Samples shall be analyzed according to the USEPA recommended Polarized Light Microscopy (PLM) method. Analysis shall be conducted at RCM's in-house, National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. The Certificates of Accreditation for RCM Laboratories are included as Appendix C.

The maximum number of samples to be analysis for bulk asbestos at Site 2 will be 240 (Table 1). This is assuming that all intervals from all cores at Site 2 contained no visible ACM.

Table 1. Maximum Number of Soil Samples Requiring Bulk Asbestos Analysis at Site 2

Boring Interval	Number of Borings	*Maximum Number of Samples
1 foot	80	80
2 foot	80	80
3 foot	80	80
		240

* Assuming a total of 80 borings will be drilled in the field.

Once all borings intervals have been examined for visible ACM, all samples with visible ACM will be deposited into polyurethane bags. Once a representative sample has been retrieved from intervals showing no visible ACM, the remainder of the soil core will be

deposited into polyurethane bags. A soil sample will also be taken to be analyzed for lead at every 0-1 foot interval as described below before the soil cores are deposited into polyurethane bags. The polyurethane bags with the dregs of the one-foot soil intervals will be archived and kept at the laboratory of RCM Laboratories (per Code of Federal Regulation – Title 40, Part 261, Section 261.4(d)) until all final reports have been written and reviewed by all concerned parties. Once final reports have been issued and the project has been completed, JM will dispose of the dregs of the one-foot soil intervals located at the laboratory of RCM Laboratories using all applicable laws and regulations.

7.2 Inspection of Soil Cores for Lead

The top interval (0-1 foot) at each sampling location at Site 2 will be analyzed for total lead (USEPA Method SW 6010) using a 7-day turn-around-time (TAT). Two (total) soil sample intervals (location and depth to be determined in the field) will be analyzed for TCLP lead (USEPA Method SW 1311/6010) using a 7-day TAT. RECRA LabNet of University Park, Illinois Park will complete all lead analyses. The Certificates of Accreditation for RECRA LabNet are included in Appendix D. The TCLP lead samples will be selected based on visual observations (i.e., the intervals with the greatest quantity of lead-bearing debris, such as bullet fragments). USEPA sampling protocols will be followed including all sampling techniques used in the field and all sampling equipment utilized for the project. Specifically, sterilized, disposed gloves as well as four ounce, sterilized, glass jars will be utilized in the field for the collection of soil samples. Every attempt will be made to have representative grid samples collected in the areas where trenches or berms previously existed. These trench and berm areas represent the most likely impacted areas from expended and unexpended lead ammunition waste. The maximum number of soil samples that would require total lead analysis is 80 (refer to Table 2). The maximum number of soil samples that would require TCLP lead analysis is 2 (refer to Table 2).

Table 2. Maximum Number of Soil Samples Requiring Total/TCLP Lead Analysis

Type of Analysis	Boring Interval	Number of Borings	*Maximum Number of Samples
Total Lead	1 foot	80	80
TCLP Lead	2 – 3 foot	80	2

* Assuming a total of 80 borings will be drilled in the field.

- Only two samples will be retrieved for TCLP analysis. These two samples will represent the intervals with the greatest quantity of lead-bearing debris based on visual observation.

7.3 Inspection of Soil Cores for Municipal Waste

Existing information for Site 2 indicates that historical activities at this Site may have included some level of municipal waste disposal. If municipal waste is encountered during the subsurface investigation (i.e., municipal waste is identified in any of the three intervals retrieved during the completion of each soil boring), the material will be retained and provided to the USEPA. Any municipal waste material observed will be documented and transferred to an eight ounce, glass, sterilized jar (or similar sampling container depending upon the size of the municipal waste) for transport to the USEPA. Actual laboratory analysis of these samples is not included in this scope of work.

The Licensed Asbestos Inspector will collect all asbestos, lead and/or municipal waste samples. Additionally, to confirm or deny the presence of friable asbestos in the breathing zone during soil core inspection, the inspector will wear a monitoring device to detect friable asbestos. The inspector will analyze the monitoring device on-site to determine whether a respirator fitted with HEPA filters will be necessary to perform soil core inspection activities. If friable asbestos is confirmed in the breathing zone while inspecting soil cores from Site 2, the inspector will wear a respirator fitted with HEPA filters for the remainder of all soil core inspection activities. Monitoring devices shall be analyzed on-site by Phase Contrast Microscopy, NIOSH Method 7400.

To document whom has possession of all asbestos, lead and/or municipal waste samples collected during the soil core inspection of Site 2, detailed chain-of-custody procedures will be utilized.

Concurrent with drilling activities, soil cores from Sites 3 will be inspected, at one-foot intervals, for the presence of ACM. Each soil core will be retrieved in a 3-foot polybutyrate sample liner. To inspect the core, a portion of the liner will be removed to expose the soil sample. The sample will then be divided into 1-foot intervals and visually inspected. To avoid creating dust particles while inspecting the cores, each sample interval will be inspected by hand. If this procedure is not feasible, then each interval will be sieved for inspection purposes. The following information details how ACM will be sampled and analyzed.

8.1 Inspection of Soil Cores for Asbestos Containing Material

If any boring interval contains visible ACM, no analysis for asbestos will be conducted for that boring location. If no boring interval contains visible ACM, then all three boring intervals at that grid location will be analyzed for bulk asbestos. RCM Laboratories will provide a USEPA accredited/IDPH Licensed Asbestos Inspector to perform a visual inspection and material sampling of suspect ACM. Samples will be placed in 50 gram, plastic blood vials for transport to the laboratory. Larger sample containers will be provided if needed. Samples shall be analyzed according to the USEPA recommended PLM method. Analysis shall be conducted at RCM's in-house, NVLAP accredited laboratory. The Certificates of Accreditation for RCM Laboratories are included as Appendix C.

The maximum number of samples to be analysis for bulk asbestos at Site 3 will be 150 (Table 3). This is assuming that all intervals from all cores at Site 3 contained no visible ACM.

Table 3. Maximum Number of Soil Samples Requiring Bulk Asbestos Analysis at Site 3

Boring Interval	Number of Borings	*Maximum Number of Samples
1 foot	50	50
2 foot	50	50
3 foot	50	50
		150

* Assuming a total of 50 borings will be drilled in the field.

Once all borings intervals have been examined for visible ACM, all samples with visible ACM will be deposited into polyurethane bags. Once a representative sample has been retrieved from intervals showing no visible ACM, the remainder of the soil core will be deposited into polyurethane bags. The polyurethane bags with the dregs of the one-foot soil intervals will be archived and kept at the laboratory of RCM Laboratories (per Code

of Federal Regulation – Title 40, Part 261, Section 261.4(d)) until all final reports have been written and reviewed by all concerned parties. Once final reports have been issued and the project has been completed, JM will dispose of the dregs of the one-foot soil intervals located at the laboratory of RCM Laboratories using all applicable laws and regulations.

The Licensed Asbestos Inspector will collect all asbestos samples. Additionally, to confirm or deny the presence of friable asbestos during soil core inspection, the inspector will wear a monitoring device to detect friable asbestos in the breathing zone. The inspector will analyze the monitoring device on-site to determine whether a respirator fitted with HEPA filters will be necessary to perform soil core inspection activities. If friable asbestos is confirmed in the breathing zone while inspecting soil cores from Site 3, the inspector will wear a respirator fitted with HEPA filters for the remainder of all soil core inspection activities. Monitoring devices shall be analyzed on-site by Phase Contrast Microscopy, NIOSH Method 7400.

To document whom has possession of all asbestos samples collected during the soil core inspection of Site 3, detailed chain-of-custody procedures will be utilized.

Assuming all sample intervals that are collected at Sites 2 and 3 require bulk asbestos analysis, the maximum number of samples to be analyzed is 390 (Table 4).

Table 4. Maximum Number of Soil Samples Requiring Bulk Asbestos Analysis at Sites 2 and 3

Site	Number of Borings	Number of Intervals	*Maximum Number of Samples
2	80	3	240
3	50	3	150
			390

* Assuming a total of 80 borings will be drilled at Site 2 and 50 will be drilled at Site 3.

9.0 TASK 7 – GENERATION OF DRAFT AND FINAL SURFACE AND SUBSURFACE INVESTIGATION REPORTS

A draft written report summarizing all tasks, field observations, sample analyses, and results of all work performed during the surface and subsurface investigation of Sites 2 and 3 will be prepared by ELM for review by JM.

Once the draft report has been reviewed and approved by JM, a final written report will be generated and distributed to JM, USEPA, IEPA, IDNR, the City of Waukegan and Commonwealth Edison. This report will be used to evaluate further site investigation and/or site remediation options.

FIGURE 1

Site Location Map

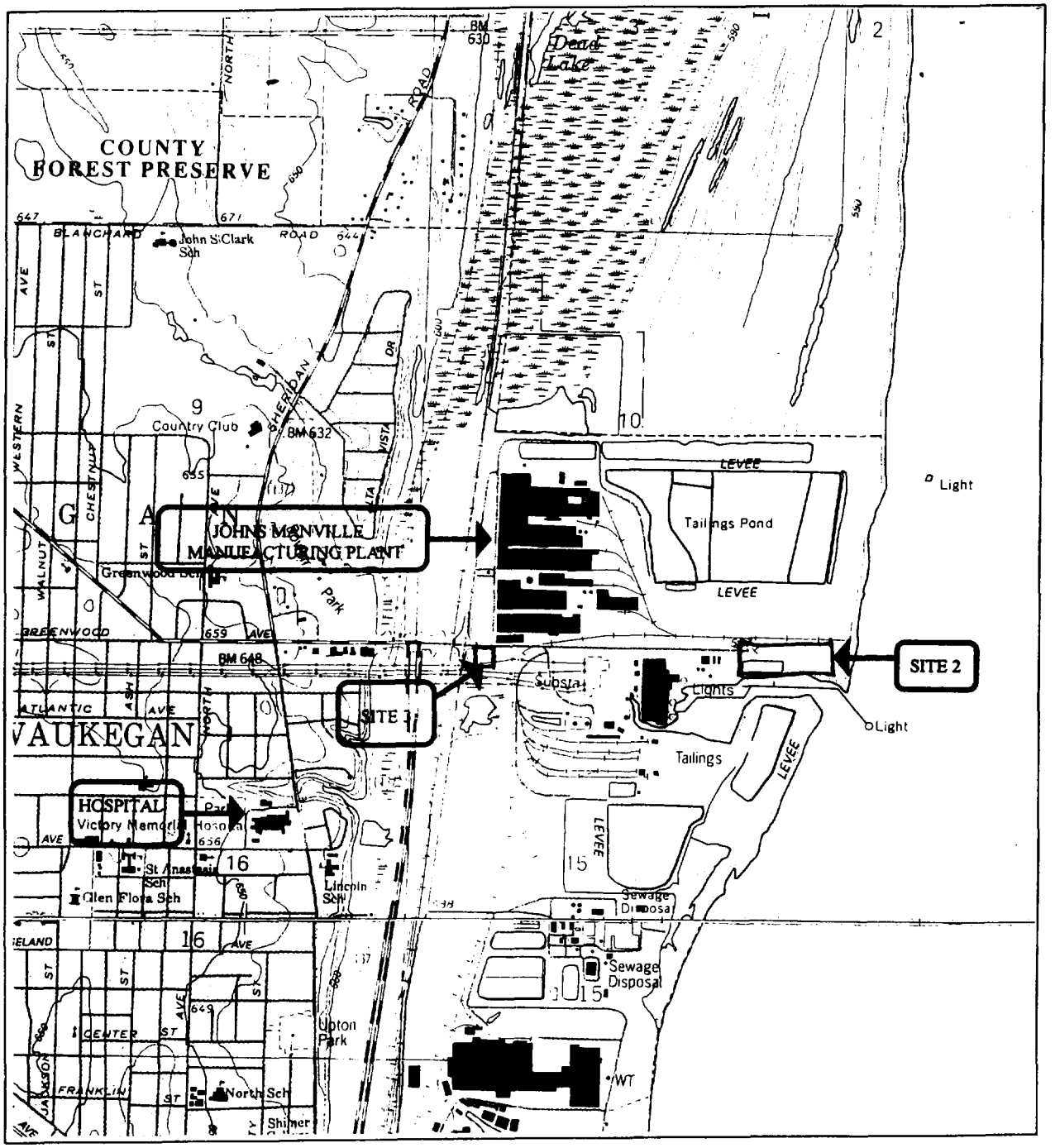


FIGURE - 1

Site Location Map

USGS 7.5 Minute Topographic Maps
Waukegan/Zion Quadrangles
Contour Interval = 10'
Scale 1" = 2000'

APPENDIX A

Letter from Brad Bradley (USEPA) to Denny Clinton (JM)
Modifications to the "Characterization Plan for Additional Sites" for the Johns-Manville Site in Waukegan, Illinois

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EXHIBIT C

REPLY TO THE ATTENTION OF:
SR6-J

VIA TELEFAX AND
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 10, 1998

Denny Clinton
Johns-Manville Corporation
10100 West Ute Avenue
Littleton, CO 80127

Dear Mr. Clinton:

The U.S. Environmental Protection Agency (EPA), Illinois EPA, and Illinois Department of Natural Resources (DNR) have reviewed the April 3, 1998 "Characterization Plan for Additional Sites" (the Plan) for the Johns-Manville Site in Waukegan, Illinois and hereby provide approval, with modifications listed below, for Tasks 4 through 6 for Sites 2 and 3. The modifications are as follows:

Site 2:

Using information collected regarding the configuration of the former shooting range, a 100 foot grid shall be layed out across Site 2. Sampling shall be conducted at the points of intersection of the grid. Borings shall be made at one foot depth intervals to a total depth of three feet at each sampling location. Samples shall be visually inspected. If any boring interval contains visible asbestos-containing material (ACM), no analyses for asbestos need to be conducted for that boring location. If no boring intervals contain visible ACM, then all three boring intervals at that grid location shall be analyzed for bulk asbestos. The top interval at each sampling location shall be analyzed for total lead, and two intervals (total) shall be analyzed for TCLP lead. The TCLP samples shall be selected based on visual observations (i.e. the intervals with the greatest quantity of lead bearing debris, such as bullet fragments). Every attempt shall be made to have representative grid samples collected in the areas where trenches or berms previously existed; grid points may be moved slightly in the field to achieve this goal.

Site 3:

Using information collected to date regarding Site 3, a 50 foot grid shall be layed out across Site 3. Sampling shall be conducted at the points of intersection of the grid. Borings shall be made at

one foot depth intervals to a total depth of three feet at each location. Samples shall be visually inspected. If any boring interval contains visible ACM, no analyses need to be conducted for that boring location. If no boring intervals contain ACM, then all three boring intervals at that grid location shall be analyzed for bulk asbestos.

Site 2 and Site 3:

1. At least 14 days prior to collecting any samples at Sites 2 and 3, Johns-Manville shall specify to EPA, Illinois EPA, and Illinois DNR (the agencies), in writing, which labs they will be using for asbestos and lead analyses.

2. Johns-Manville shall complete all sampling activities outlined above and submit preliminary analytical results to the agencies within 90 days of your receipt of this letter (this hereby amends the schedule stated in my March 20, 1998 letter to you).

3. Johns-Manville shall submit the written report for Sites 2 and 3 described in Task 5 of the Plan to the agencies within 105 days of your receipt of this letter.

4. Johns-Manville shall arrange the meeting for Sites 2 and 3 described in Task 6 of the Plan with the agencies within 120 days of your receipt of this letter.

5. The ACM generated as part of Task 4 for Sites 2 and 3 may be disposed of in the Settling Basin; if Johns-Manville plans to dispose of this ACM in a different manner, the agencies must be notified at least 30 days prior to the onset of said disposal.

The work contemplated under the Plan is not inconsistent with the applicable requirements of the National Contingency Plan, 40 CFR Part 300. If you have any questions concerning this letter, please contact me at (312) 886-4742.

Sincerely,

Brad Bradley

Brad Bradley
Remedial Project Manager

cc: Bob Rogers, Illinois EPA
Beth Wallace, Illinois AG
Randy Heidorn, Illinois Nature Preserves Commission
Steve Davis, Illinois DNR
Jeff Diver, rep. City of Waukegan

bcc: Kris Vezner, CS-13J
Sally Averill

ACCESS AGREEMENT

EXHIBIT D

This Access AGREEMENT ("Agreement") is made and entered into this ____ day of July, 1998, by and between the City of Waukegan, Illinois ("City") and Johns Manville International, Inc. ("JM").

WITNESSETH:

WHEREAS, City owns certain property in Waukegan, Illinois, which is located near Greenwood Avenue and the Lake Michigan beach ("Property" or "Site"); The approximate location and boundaries of which are shown in Exhibit A, which is incorporated by reference herein;

WHEREAS, by letter of March 20, 1998, attached hereto as Exhibit B, the United States Environmental Protection Agency ("U.S. EPA") has instructed JM to, *inter alia*, characterize the nature and extent of contamination, if any, at the Property pursuant to a work plan to be approved by U.S. EPA ("Approved Work Plan");

WHEREAS, JM has requested access to the Property to comply with U.S. EPA's direction;

WHEREAS, City wishes to cooperate with U.S. EPA and with JM in complying with U.S. EPA's instruction:

NOW, THEREFORE, City and JM agree as follows:

1. DRAFT WORK PLAN. JM will provide City a copy of the Draft Work Plan submitted by or to U.S. EPA on the date of this Agreement or within three (3) business days after such Draft Work Plan is submitted by or to U.S. EPA, whichever is later. Thereafter, JM shall provide City with a copy of any further writings by JM, U.S. EPA or Illinois EPA, concerning the contents of the Draft Work Plan or any subsequent draft thereof. Such copies shall be provided to the City within three (3) business days after their being prepared by or received by JM.

2. RIGHT OF ACCESS. City hereby grants JM and its consultants, contractors and subcontractors the right, during the term of this Agreement, to enter upon and have ingress to and egress from the Property to conduct a survey and to collect soil samples in accordance with the Approved Work Plan. JM, its consultants, contractors, and subcontractors shall notify City at least five (5) business days prior to entry upon the Property. Not less than five (5) business days prior to entering the Property JM will provide City with a copy of the Approved Work Plan, and any other plans that describe the work to be performed. Upon City's request, JM will provide split samples of any samples taken by JM pursuant to the Approved Work Plan.

3. EXPENSES. Except for the cost of split samples taken by City, JM shall initially fund the costs and expenses associated with the work performed relating to this Agreement, if JM determines to proceed with the work. This includes all reasonable costs and expenses associated with restoring the areas on which sampling was conducted at the Property to a condition comparable to that existing at the commencement of this Agreement. Notwithstanding the above, City shall be solely responsible for the costs of any split samples (and analyses thereof) it requests from JM, its consultants, contractors and subcontractors.

4. HEALTH AND SAFETY. JM shall assure that its consultants, contractors and subcontractors keep the Property free from safety and health hazards (other than those, if any, that may exist before entry) and assure that its consultants, contractors and subcontractors are competent and adequately trained in the required safety and health aspects of the work performed at the Property under this Agreement.

5. WASTE DISPOSAL. JM and City agree that any wastes generated during the sampling pursuant to this Agreement may be stored temporarily at the Site until proper disposal is arranged by JM. JM further agrees that it will, as necessary, obtain a Generator Identification Number from the Illinois Environmental Protection Agency for such waste materials and shall be the generator of those waste materials. JM shall cause the proper management of those waste materials in accordance with all applicable laws and regulations. The requirements of this section shall survive termination of the Agreement.

6. COMPLIANCE WITH LAWS. JM and its employees, consultants, contractors and subcontractors shall materially comply with all applicable federal, state and local laws and regulations while on the Property or performing any work under this Agreement.

7. INSURANCE. JM, its consultants, contractors and subcontractors, as applicable, shall keep in force during the life of this Agreement occurrence-based comprehensive general liability insurance, automobile liability insurance, and workers compensation insurance sufficient to cover the costs of potential liability that may reasonably be expected to arise out of work performed pursuant to this Agreement, but with a minimum combined single liability limits of $1,000,000 per occurrence for bodily injury and property damage. Certificates of Insurance shall be provided to City prior to any access to the Property hereunder, and City shall be designated as an additional insured, by endorsement, on the comprehensive general liability policies of JM and any of its consultants, contractors, or subcontractors that enter the Property.

8. INDEMNITY. JM shall defend, indemnify and hold harmless City from and against all claims, demands, losses, damages and costs incurred by City arising from a breach of this Agreement or the acts or omissions of JM or its consultants, contractors or subcontractors in entering upon the Property or performing any work under this Agreement, except to the extent that such claims, demands, losses, damages or costs

result from the acts, omissions or willful misconduct of City or its agents. The requirements of this section shall survive termination of the Agreement. Notwithstanding the foregoing, JM shall not be required to incur any liability discharged in JM's Chapter 11 Bankruptcy Reorganization.

9. TERMINATION. The right of access granted pursuant to this Agreement shall commence on the date this Agreement has been executed by both parties and shall terminate upon completion of the Work Plan for the Property. JM agrees to notify City in writing when it has completed the Work Plan at the Property. Notwithstanding the above, this Agreement may be terminated by either party on ten (10) days written notice to the other party.

10. CONFIDENTIALITY. JM agrees that it will promptly provide City with field notes made during boring or sampling, chain of custody records for all samples, laboratory data and reports concerning the sampling performed pursuant to this Agreement, all reports and data provided to U.S. EPA, IEPA concerning such sampling, and shall also provide City with final versions of any nonprivileged reports JM, or its consultants, contractors or subcontractors prepare as a result of the sampling performed. JM, its consultants, contractors and subcontractors agree that they will not during or subsequent to this Agreement divulge to any third-party any information not already in the public domain obtained as a result of the sampling except to U.S. EPA and the Illinois Environmental Protection Agency, unless required to do so by law or required for hearing, suit or other action regarding the Property or any adjacent property.

11. ASSIGNMENT. JM shall not assign this Agreement, or any interests therein, without the written consent of City. This instrument may be executed in counterparts.

12. CONDITION OF SITE. Prior to JM's entry, City shall provide to JM information knowingly in its possession concerning the condition of the Property which is relevant to the work to be undertaken by JM. This information would include, *inter alia*, the locations of underground utilities, unfired bullets and shells, obstructions, and municipal waste.

13. NO IMPACT ON LIABILITY; NO RELEASE. This Agreement is not intended to nor shall it be interpreted to in any manner affect any liability that either party may have to the other or any third party. Nor shall this Agreement constitute a release of liability of either party to the other.

CITY OF WAUKEGAN, ILLINOIS

_____

Title: _____

Date: _____

Johns Manville International, Inc.

_____

Bruce D. Ray
Senior Environmental Counsel

July _____, 1998

EXHIBIT E

ACCESS AGREEMENT

This Access AGREEMENT ("Agreement") is made and entered into this ____ day of July, 1998, by and between Commonwealth Edison Company ("ComEd") and Johns Manville International, Inc. ("JM").

WITNESSETH:

WHEREAS, ComEd owns certain property in Waukegan, Illinois, on which is located its Waukegan Generating Station ("Waukegan Property"). Exhibit A, which is incorporated by reference herein, generally depicts the ComEd Waukegan Property;

WHEREAS, in approximately 1956 JM leased a portion of the Waukegan Property for use as a parking lot ("Parking Lot"). The approximate location and boundaries of the Parking Lot are shown in Exhibit B marked as "Parking Lot," which is incorporated by reference herein;

WHEREAS, beginning in 1959 another part of the ComEd Waukegan Property may have been used as a berm for a rifle range ("Range") located principally on property owned by the City of Waukegan. The approximate location and boundaries of the Range are shown in Exhibit C, which is incorporated by reference herein;

WHEREAS, the United States Environmental Protection Agency ("U.S. EPA") has directed JM to, *inter alia*, characterize the nature and extent of contamination, if any, at the Parking Lot and Range pursuant to a workplan to be approved by U.S. EPA ("Approved Work Plan");

WHEREAS, U.S. EPA has also directed JM to conduct a survey to determine boundaries of the Parking Lot, Range and other areas adjoining the northern areas of the Waukegan Property;

WHEREAS, JM has requested access to the Parking Lot and Range to comply with U.S. EPA's direction;

WHEREAS, ComEd wishes to cooperate with U.S. EPA and with JM in complying with U.S. EPA's directives:

NOW, THEREFORE, ComEd and JM agree as follows:

1. RIGHT OF ACCESS. ComEd hereby grants JM and its consultants, contractors and subcontractors the right, during the term of this Agreement, to enter upon and have ingress to and egress from the northern portions of the Waukegan Property as necessary to conduct a survey of the Parking Lot and Range and of the areas generally identified on the attached Exhibits B and C. JM, its consultants, contractors, and

subcontractors shall notify ComEd at least five (5) days prior to entry upon the Waukegan Property to conduct the survey.

2. ADDITIONAL RIGHT OF ACCESS. Additionally, ComEd hereby grants JM and its consultants, contractors and subcontractors the right, during the term of this Agreement, to enter upon and have ingress to and egress from the Parking Lot and Range to collect soil samples in accordance with the Approved Work Plan. JM, its consultants, contractors, and subcontractors shall notify ComEd at least five (5) calendar days prior to entry upon the Parking Lot and Range. Prior to entering the Parking Lot or Range JM will provide ComEd with a copy of the Approved Work Plan, and any other plans that describe the work to be performed. Upon ComEd's request, JM will provide to ComEd the opportunity to split samples of any samples taken by JM pursuant to the Approved Work Plan.

3. EXPENSES. Except for the cost of split samples taken by ComEd, JM shall initially fund the costs and expenses associated with the work performed relating to this Agreement, if JM determines to proceed with the work. This includes all reasonable costs and expenses associated with restoring the areas on which sampling was conducted at the Parking Lot and Range to a condition comparable to that existing at the commencement of this Agreement. Notwithstanding the above, ComEd shall be solely responsible for the costs of any split samples and analyses it requests from JM, its consultants, contractors and subcontractors.

4. HEALTH AND SAFETY. JM shall require that its consultants, contractors and subcontractors keep the sampling area at the Parking Lot and Range free from safety and health hazards (other than those, if any, that may exist before entry) and require that its consultants, contractors and subcontactors are competent and adequately trained in the required safety and health aspects of the work performed under this Agreement. No access will be permitted under this Agreement for any vehicles, equipment or materials having a height greater than fourteen (14) feet and no deployment, assembly, erection or placement of any machinery, equipment or materials having a height greater than fourteen (14) feet shall be permitted.

5. WASTE DISPOSAL. JM and ComEd agree that any wastes generated during the sampling pursuant to this Agreement may remain temporarily at the sites until proper disposal is arranged by JM. JM and ComEd further agree that JM will as necessary obtain a Generator Identification Number from the Illinois Environmental Protection Agency for such waste materials and shall be the generator of those waste materials. JM shall cause the proper disposal of those waste materials in accordance with all applicable laws and regulations.

6. COMPLIANCE WITH LAWS. JM shall require that its employees, consultants, contractors and subcontractors materially comply with all applicable federal, state and local laws and regulations while executing the Approved Work Plan at the Parking Lot and Range, and while conducting surveying activities.

7. INSURANCE. JM, its consultants, contractors and subcontractors, as applicable, shall keep in force during the life of this Agreement comprehensive general liability insurance and workers compensation insurance sufficient to cover the costs of potential liability that may reasonably be expected to arise out of the work performed pursuant to this Agreement. Upon ComEd's written request, Certificates of Insurance shall be provided to ComEd, and ComEd shall be designated as a additional insured on the comprehensive general liability policies.

8. INDEMNITY. JM shall indemnify and hold harmless ComEd from and against all claims, demands, losses, damages and costs incurred by ComEd arising from the negligent acts, errors, omissions or misconduct of JM or its consultants, contractors and subcontractors in performing the activities under this Agreement, except to the extent that such claims, demands, losses, damages or costs result from the negligent acts, omissions or willful misconduct of ComEd or its agents. Notwithstanding the foregoing, JM shall not be required to incur any liability discharged in JM's Chapter 11 Bankruptcy Reorganization.

9. TERMINATION. The right of access granted pursuant to this Agreement shall commence on the date this Agreement is executed by both parties and shall terminate upon completion of the Approved Work Plan for the Parking Lot and Range and the surveying activities. JM agrees to notify ComEd in writing when it has completed work at the Parking Lot and Range and when it has completed its surveying activities. Notwithstanding the above, this Agreement may be terminated by either party on ten (10) days written notice to the other party.

10. CONFIDENTIALITY. JM agrees it will provide ComEd with the results of the sampling performed pursuant to this Agreement and shall also provide ComEd with final versions of any nonprivileged reports JM, or its consultants, contractors or subcontractors prepare as a result of the sampling performed. JM also agrees it will provide ComEd with copies of all maps and reports reflecting the surveying conducted on or adjoining the Waukegan Property. JM, its consultants, contractors and subcontractors agree that they will not during or subsequent to this Agreement divulge to any third-party any information not already in the public domain obtained as a result of the sampling or surveying except to U.S. EPA and the Illinois Environmental Protection Agency, unless required to do so by law or required for hearing, suit or other action regarding the Parking Lot and Range, the Waukegan Property or any adjacent property

11. ASSIGNMENT. JM shall not assign this Agreement, or any interests therein, without the written consent of ComEd. This instrument may be executed in counterparts.

12. CONDITION OF SITE. Prior to JM's entry, ComEd shall provide to JM information in its possession concerning the condition of the Parking Lot and Range which is relevant to the work to be undertaken by JM. This information would include, *inter alia*, the locations of underground utilities and obstructions.

13. NO IMPACT ON LIABILITY; NO RELEASE. This Agreement is not intended to nor shall it be interpreted to in any manner affect any liability that either party may have to the other or to any third party. Nor shall this Agreement constitute a release of liability of either party to the other.

This instrument may be executed in counterparts

COMMONWEALTH EDISON COMPANY

____

Title: __________________________

Date: __________________________

JOHNS MANVILLE INTERNATIONAL, INC.

____

Bruce D. Ray
Senior Environmental Counsel

July ____, 1998.

APPENDIX B

Access Agreements for the City of Waukegan and Commonwealth Edison

APPENDIX C

Certificates of Accreditation for RCM Laboratories

State of Illinois A 85662
Department of Public Health

LICENSE, PERMIT, CERTIFICATION, REGISTRATION

The person, firm or corporation whose name appears on this certificate has complied with the provisions of the Illinois Statutes and/or rules and regulations and is hereby authorized to engage in the activity as indicated below

JOHN R. LUMPKIN, M.D.
DIRECTOR

Issued under the authority of
The State of Illinois
Department of Public Health

EXPIRATION DATE	CATEGORY	I.D. NUMBER
05/15/99	5319	100-7374

RONALD BACHUS

PROJECT MANAGER
INSPECTOR AIR SAMPLING PROFESSIONAL

BUSINESS ADDRESS

ALTERING THIS CERTIFICATE MAY RESULT IN LEGAL ACTION
RONALD BACHUS
16945 S. SAYRE AVENUE
TINLEY PARK IL 60477
THIS LICENSE IS NOT VALID IF YOUR IDPH
REFRESHER COURSE CERTIFICATE IS NOT CURRENT

Printed by Authority of the State of Illinois ● 2/91 ●

State of Illinois A 85662
Department of Public Health
LICENSE, PERMIT, CERTIFICATION, REGISTRATION
ASBESTOS PROFESSIONAL LICENSE

EXPIRATION DATE	CATEGORY	I.D. NUMBER
05/15/99	5319	100-7374

RONALD BACHUS

PROJECT MANAGER
INSPECTOR AIR SAMPLING PROFESSIONAL

THE PERSON OR [illegible] WHOSE NAME APPEARS
ON THIS CERTIFICATE HAS COMPLIED WITH THE PROVISIONS
OF THE ILLINOIS STATUTES AND/OR RULES AND REGULATIONS
AND IS HEREBY AUTHORIZED TO ENGAGE IN THE ACTIVITY
INDICATED ON THE FACE OF THIS CARD

SIGNATURE OF LICENSEE

ISSUED UNDER THE AUTHORITY OF
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC HEALTH

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

RCM LABORATORIES, INC.
COUNTRYSIDE, IL

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

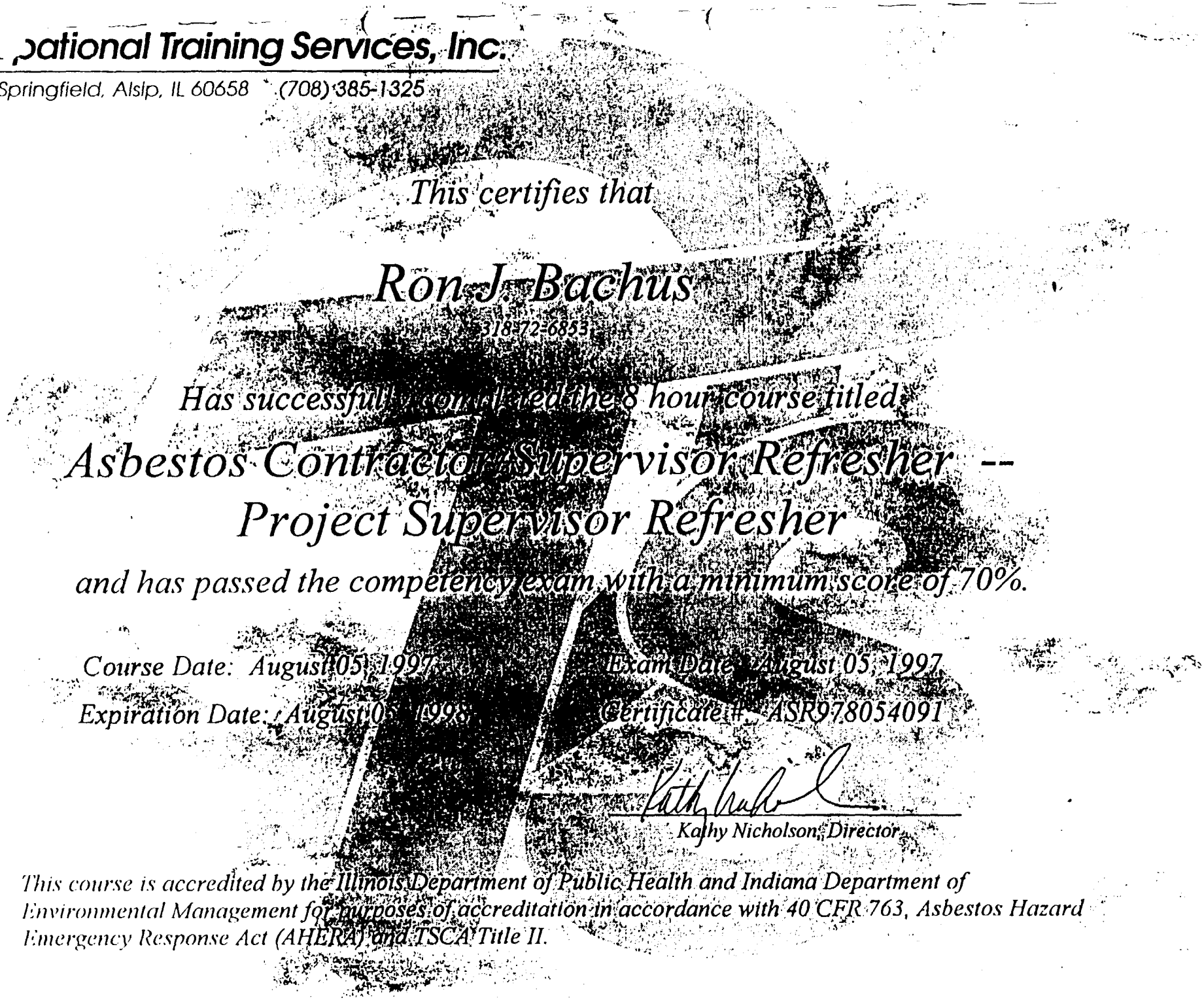
BULK ASBESTOS FIBER ANALYSIS

June 30, 1999
Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 101853-0

Occupational Training Services, Inc.
12601 S. Springfield, Alsip, IL 60658 (708) 385-1325



This certifies that

Ron J. Bachus

318-72-6853

Has successfully completed the 8 hour course titled

Asbestos Contractor Supervisor Refresher -- Project Supervisor Refresher

and has passed the competency exam with a minimum score of 70%.

Course Date: August 05, 1997 *Exam Date: August 05, 1997*

Expiration Date: August 05, 1998 *Certificate #: ASR978054091*

Kathy Nicholson, Director

This course is accredited by the Illinois Department of Public Health and Indiana Department of Environmental Management for purposes of accreditation in accordance with 40 CFR 763, Asbestos Hazard Emergency Response Act (AHERA) and TSCA Title II.

Moraine Valley Community College
Environmental Institute
AHERA Accreditation

This certificate is awarded to

RONALD J. BACHUS

In recognition of attending the required four-hour refresher course and successfully passing the written examination, attaining a score of 70 percent or greater, for accreditation as a:

Building Inspector

Course Date	*Test Date*	*Expiration Date*	*Social Security #*	*Accreditation #*
July 29, 1998	**July 29, 1998**	**July 28, 1999**	**318-72-6853**	**798IR001**

This course is fully approved by the U.S. EPA only for purposes of accreditation under Title II of the Toxic Substances Control Act 40 CFR part 763. This course is further approved by the Illinois Department of Public Health and the Indiana Department of Environmental Management.

Moraine Valley Community College
10900 South 88th Avenue
Palos Hills, IL 60465-0937
708-975-5415

Mary Ann Cook
Instructional Coordinator

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

BULK ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 101853-0**

RCM LABORATORIES, INC.
5400 East Avenue, Second Floor
Countryside, IL 60525
Dr. Tianbao Bai
Phone: 708-485-8600 Fax: 708-485-8607

NVLAP Code	*Designation*
18/A01	U.S. EPA's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" as found in 40 CFR, Part 763, Subpart F, App. A, or the current U.S. EPA method for the analysis of asbestos in building material.

June 30, 1999

*Effective through

For the National Institute of Standards and Technology

RCM Laboratories, Inc.

certifies that

Ron Bachus

has successfully completed training in

AIR SAMPLING
AND FIBER COUNTING

(NIOSH 582 Equivalent)
Sampling and Evaluating Airborne Asbestos Dust

11-Jan-96

V./President

Laboratory Manager

Certificate No. 0300 AFC

The American Industrial Hygiene Association

is proud to acknowledge that

RCM Laboratories, Inc.

Countryside, IL

Laboratory ID# 10276

has fulfilled the requirements for Industrial Hygiene Laboratory Accreditation and has earned distinguished recognition as an

AIHA IH Accredited Laboratory

Originally Accredited November 14, 1997, current certificate effective November 15, 1997 until November 1, 2000, subject to continued compliance with AIHA accreditation criteria

D. Jeff Burton, CIH, PE, CSP
President, American Industrial Hygiene Association

November 14, 1997
Preparation Date

Mark A. Puskar, Ph.D.
Chair, Analytical Accreditation Board

#569
Certificate Number

William M. Walsh, CIH
Chair, IH Laboratory Accreditation Committee

AIHA
The Essential Source

November 15, 1997

Tianbao Bai
RCM Laboratories, Inc.
5400 East Ave.
Countryside, IL 60525

LAB ID #10276

Dear Tianbabo Bai:

Congratulations! The AIHA IH Laboratory Accreditation Committee and Analytical Accreditation Board of AIHA have approved your **initial** accreditation. The enclosed certificate # 569 is effective November 15, 1997 until November 1, 2000.

Please note that under the policies of the IH Laboratory Accreditation Committee, specifically 4.8.2, laboratories applying for initial accreditation shall be enrolled in the PAT program for all analyte classes analyzed by the laboratory. To become accredited, a laboratory must have less than 5% outliers in the two rounds prior to receiving accreditation for the analyte class(es) for which accreditation is being sought. Policy 4.8.4.2 states, Laboratories should be aware that once enrolled in the PAT program for the new analyte class, poor performance on the new analyte will affect the overall performance rating of the laboratory. A site visit may be required by the IHLAC to expand participation into a new class of analytes.

Again, congratulations and we are here to assist you with your needs, problems and questions.

Sincerely,

Charlotte L. Miller
Manager, Laboratory Accreditation Administration

CLM

Enclosure

American Industrial Hygiene Association
2700 Prosperity Ave., Suite 250, Fairfax, VA 22031
(703) 849-8888 (703) 207-3561 fax

AIHA
The Essential Source

RETAIN FOR YOUR RECORD

November 4, 1997

Ronald Bachus
RCM Laboratories, Inc.
5400 East Ave.
Countryside, IL 60525

Counter ID: 7533
Organization ID: 10276

Dear Ronald Bachus:

Congratulations! The American Industrial Hygiene Association (AIHA) Analytical Accreditation Board (AAB) has approved your listing in the Asbestos Analysts Registry (AAR). This Board Approval (BA) takes effect today and is current as long as you maintain two or less outliers in the two most current consecutive Asbestos Analytical Testing (AAT) rounds. This is the only time AIHA requires that you be on the AAB Ballot.

If you should receive more than two outliers in two consecutive rounds, your AAT Performance Results report will show that you are "not acceptable." To regain your board approval, your options are:

1) Purchase the current round retest which will override your results and again meet BA qualifications, or:
2) Analyze the next two AAT rounds and again meet BA qualifications.

If you foresee non-participation in a future AAT round, AIHA requires a letter requesting a suspension from that round to retain the BA status before the date that results are due for that particular round.

For your information:

1) *You automatically lose BA status when you cease analyzing AAT samples with your organization.*

2) *If you transfer to an unapproved organization, you immediately lose BA status.*

Congratulations again and thank you for your continued interest in the Asbestos Analysts Registry program. If you have any questions concerning your status, please call me.

Sincerely,

Paul Z. Balcer

Paul Z. Balcer
Asbestos Analysts Registry Specialist

PZB

American Industrial Hygiene Association
2700 Prosperity Ave., Suite 250, Fairfax, VA 22031
(703) 849-8888 (703) 207-3561 fax
InfoFax Service Line (703) 641-INFO or Internet: infonet@aiha.org

APPENDIX D

Certificates of Accreditation for RECRA LabNet

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990

RECRA LABNET - CHICAGO
2417 Bond Street
University Park, IL 60466-3182
Donna McCarthy Phone: 708 534 5200

ENVIRONMENTAL

Valid To: December 31, 1998 Certificate Number: 0732-03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

Testing Technologies

Atomic Absorption/ICP-AES Spectrometry, Atomic Absorption-Graphite Furnace, Gas Chromatography, Gas Chromatography/Mass Spectrometry, Gravimetry, High Performance Liquid Chromatography, Ion Chromatography, Methylene Blue Active Substances, Misc.- Electronic Probes (pH, F^-, O_2), Oxygen Demand, Hazardous Waste Characteristics Tests, Spectrophotometry (Visible), Spectrophotometry (Automated), Titrimetry, Total Organic Carbon, Total Organic Halide, Turbidity

Potable Water: metals, nutrients, demands, classical (wet) chemistry, purgeable organics

Nonpotable Water: metals, nutrients, demands, classical (wet) chemistry, purgeable organics, extractable organics, pesticides-herbicides-PCBs

Solid/Hazardous Waste: metals, nutrients, demands, classical (wet) chemistry, purgeable organics, extractable organics, pesticides-herbicides-PCBs, hazardous waste characteristics (ignitability, corrosivity, extraction procedure for oily wastes, EP toxicity, paint filter liquids test, liquid release test, reactivity, TCLP)

Environmental Lead: soil, paint chips (residue), paint (unapplied), dust, air, drinking water, building debris

Explosives

A supplemental scope, identifying the full range of tests and types of tests, is available from A2LA or the laboratory.

Revised 09/24/97

656 Quince Orchard Road, #620 • Gaithersburg,MD 20878-1409 • Phone: 301 670 1377 • FAX: 869 1495

THE AMERICAN ASSOCIATION
FOR LABORATORY ACCREDITATION

A2LA has accredited

RECRA LABNET - CHICAGO
University Park, IL

under the

ENVIRONMENTAL LEAD (Pb) TESTING LABORATORY ACCREDITATION PROGRAM

By virtue of the on-site assessment of this laboratory's environmental Lead (Pb) testing capabilities and successful participation in the Environmental Lead Proficiency Analytical Testing Program (ELPAT), this laboratory has been found to meet the A2LA Environmental Lead (Pb) Program Requirements. As such, this laboratory is recognized under the EPA Office of Pollution and Toxics' (OPPT) National Lead Laboratory Accreditation Program (NLLAP). This accreditation covers the following matrices: air, drinking water, dust, paint chips (residue), paint (unapplied), building debris and soil.

Presented this 3rd day of March, 1997.

President
For the Accreditation Council
Certificate Number 732.03
Valid to December 31, 1998

(Revised 09/24/97)

LITHO IN U.S.A.